

WHAT IS CLAIMED IS:

1 1. A trim panel for use in a vehicle, the trim panel comprising:
2 a one-piece molded member having a first portion made of a first resin and a
3 second portion made of a second resin,
4 wherein the one-piece molded member is formed by a process wherein the
5 first resin is injected into a first cavity, a retractor member is moved to define a second cavity
6 without separating the first mold section and the second mold section, and the second resin is
7 injected into the second cavity.

1 2. The trim panel of claim 1 wherein the first resin comprises a first polymeric
2 material and the second resin comprises a second polymeric material different than the first
3 polymeric material.

1 3. The trim panel of claim 2 wherein the first resin comprises a first color and the
2 second resin comprises a second color different than the first color.

1 4. The trim panel of claim 2 wherein the first polymeric material comprises a
2 first color and the second polymeric material comprises a second color which is
3 approximately the same as the first color.

1 5. The trim panel of claim 1 wherein the first resin comprises a first polymeric
2 material and the second resin comprises a second polymeric material which is the same as the
3 first polymeric material.

1 6. The trim panel of claim 5 wherein the first polymeric material comprises a
2 first color and the second polymeric material comprises a second color different than the first
3 color.

1 7. The trim panel of claim 1 wherein the first resin comprises a first color and the
2 second resin comprises a second color different than the first color.

1 8. The trim panel of claim 1 wherein the trim panel is one of a vehicle door panel
2 and a vehicle instrument panel.

1 9. The trim panel of claim 1 wherein the first cavity is defined by a first mold
2 section, a second mold section, and the retractor member.

1 10. The trim panel of claim 9 wherein the second cavity is defined by the first
2 mold section, the second mold section, the retractor member, and the first resin.

1 11. The trim panel of claim 1 wherein the one-piece molded member further
2 comprises an "A" surface provided by the first portion and at least part of the second portion,
3 and further comprises a recess on the "A" surface at an interface of the first portion and the
4 second portion.

1 12. The trim panel of claim 11 wherein the recess has a substantially square shape.

1 13. The trim panel of claim 11 wherein the recess is defined by a first surface and
2 a second surface extending at an angle relative to the first surface.

1 14. The trim panel of claim 13 wherein the recess is intended to allow the
2 interface between the first resin and the second resin to be substantially hidden from a vehicle
3 occupant's sight.

1 15. The trim panel of claim 1 further comprising a mechanical interlock between
2 the first portion and the second portion.

1 16. The trim panel of claim 15 wherein the mechanical interlock is configured as a
2 square mechanical interlock.

1 17. The trim panel of claim 15 wherein the mechanical interlock is configured as a
2 dovetail mechanical interlock.

1 18. The trim panel of claim 1 further comprising a third portion made of a third
2 resin injected into a third cavity.

1 19. The trim panel of claim 18 wherein the third resin comprises at least one of a
2 thermoplastic material, a thermoset material, or a elastomer material.

1 20. The trim panel of claim 1 wherein the first resin comprises at least one of a
2 thermoplastic material, a thermoset material, or a elastomer material.

1 21. The trim panel of claim 20 wherein the second resin comprises at least one of
2 a thermoplastic material, a thermoset material, or a elastomer material.

1 22. A method of making a molded article, the method comprising:
2 providing a mold having a first mold section, a second mold section, and a
3 retractor member;
4 injecting a first resin into a first cavity defined by the first mold section, the
5 second mold section, and the retractor member;
6 moving the retractor member to define a second cavity wherein the second
7 cavity is defined by the first mold section, the second mold section, the retractor member, and
8 the first resin; and
9 injecting a second resin into the second cavity.

1 23. The method of claim 22 wherein the first resin is at least partially solidified
2 when the second resin is injected.

1 24. The method of claim 22 further comprising the step of providing a recess at
2 the interface between the first resin and the second resin.

1 25. The method of claim 24 wherein the recess comprises a square shape.

1 26. The method of claim 24 wherein the recess is defined by a first surface and a
2 second surface extending at an angle relative to the first surface.

1 27. The method of claim 22 further comprising the step of providing an
2 interlocking geometry between the first resin and the second resin to create a mechanical lock
3 between the first resin and the second resin.

1 28. The method of claim 27 wherein the interlocking geometry is a square
2 interlock.

1 29. The method of claim 27 wherein the interlocking geometry is a dovetail
2 interlock

1 30. The method of claim 22 wherein the second cavity is formed without
2 separating the first mold section from the second mold section.

1 31. The method of claim 22 wherein the first resin is identical to the second resin.

1 32. The method of claim 22 wherein the first resin comprises a first color and the
2 second resin comprises a second color different than the first color.

1 33. The method of claim 22 further comprising defining a third cavity and
2 injecting a third resin.

1 34. The method of claim 33 wherein the third resin comprises a color different
2 than the first resin and the second resin.

1 35. The trim panel of claim 34 wherein the third resin comprises at least one of a
2 thermoplastic material, a thermoset material, or a elastomer material.

1 36. The trim panel of claim 34 wherein the first resin comprises at least one of a
2 thermoplastic material, a thermoset material, or a elastomer material.

1 37. The trim panel of claim 36 wherein the second resin comprises at least one of
2 a thermoplastic material, a thermoset material, or a elastomer material.

1 38. A method of making a molded article, the method comprising:

2 providing a mold having a first mold section, a second mold section, and a
3 shut-off member, the shut-off member movable between a first position and a second position
4 and comprising a first surface, a second surface, and a third surface;

5 injecting a first resin into a first cavity which is defined by the first mold
6 section, the second mold section, and the first surface of the shut-off member when in the
7 first position;

8 moving the shut-off member to define a second cavity without moving the first
9 mold section relative to the second mold section, the second mold cavity is defined by the
10 first mold section, the second mold section, the first resin, the second surface of the shut-off
11 member, and the third surface of the shut-off member when in the second position; and

12 injecting a second resin into the second cavity.

1 39. The method of claim 38 wherein the first resin is at least partially solidified
2 when the second resin is injected.

1 40. The method of claim 38 further comprising a space between the shut-off
2 member and the second mold section when the shut-off member is in the first position so that
3 air can escape from the first cavity to the second cavity during the step of injecting the first
4 resin into the first cavity.

1 41. The method of claim 38 wherein the first resin comprises a first color and the
2 second resin comprises a second color different than the first color.

1 42. The trim panel of claim 38 wherein the first resin comprises at least one of a
2 thermoplastic material, a thermoset material, or a elastomer material.

1 43. The trim panel of claim 42 wherein the second resin comprises at least one of
2 a thermoplastic material, a thermoset material, or a elastomer material.

1 44. A method of making a molded article, the method comprising:
2 providing a mold having a first mold section, a second mold section, a first
3 shut off member and a second shut-off member, the shut-off members movable between a
4 first position and a second position;
5 injecting a first resin into a first cavity which is defined by the first mold
6 section, the second mold section, the first shutoff member when in the first position, and the
7 second shutoff member when in the first position;
8 moving the first shutoff member to define a second cavity without moving the
9 first mold section relative to the second mold section wherein the second cavity being defined
10 by the first mold section, the second mold section, the first material and the first shutoff
11 member in the second position;
12 moving the second shutoff member to define a third cavity without moving the
13 first mold section relative to the second mold section wherein the third cavity is defined by
14 the first mold section, the second mold section, the first material, and the second shutoff
15 member in the second position;
16 injecting a second resin into the second cavity; and
17 injecting a third resin into the third cavity.

1 45. The method of claim 44 wherein moving the first shut-off member between
2 the first position and the second position comprises translating movement.

1 46. The method of claim 45 wherein the first position comprises an extended
2 position and the second position comprises a retracted position wherein the shut-off member
3 is disposed substantially within the first mold section.

1 47. The method of claim 44 further comprising a gap between the first shut-off
2 member and the second mold section when the first shut-off member in the first position.

1 48. The method of claim 47 wherein the gap is configured to provide a vent to
2 allow air to escape the first mold cavity when injecting the first resin into the first cavity.

1 49. The method of claim 44 further comprising the step of bonding the second
2 resin to the first resin.

1 50. The method of claim 49 wherein bonding the second resin to the first resin
2 comprises fusion bonding.

1 51. The trim panel of claim 44 wherein the third resin comprises at least one of a
2 thermoplastic material, a thermoset material, or a elastomer material.

1 52. The trim panel of claim 51 wherein the first resin comprises at least one of a
2 thermoplastic material, a thermoset material, or a elastomer material.

1 53. The trim panel of claim 52 wherein the second resin comprises at least one of
2 a thermoplastic material, a thermoset material, or a elastomer material.

1 54. The trim panel of claim 44 wherein the first shutoff member moves at about
2 the same time as the second shutoff member.

3 55. The trim panel of claim 44 wherein the first shutoff member moves before the
4 second shutoff member.